REMARKS/ARGUMENTS

The new claims correspond to subject matter of the original claims and subject matter disclosed in the application as filed. See, e.g., pages 3, 8 to 10, Table 1 and Fig. 1. No new matter has been entered.

The submission dated March 8, 2004, was a related case statement provided for the Examiner's information.

The objection regarding the usage of the term "high" in the claims is no longer relevant for the new claims, as this term has been removed.

The outstanding rejections are traversed, and their withdrawal is requested. The rejections do not apply to the new claims.

Davies discloses an inhalation device that uses a medicament pack that comprises two sheets peelably secured to one another (paragraph [0004], [0041]). These two sheets define a plurality of medicament containers spaced along the length of the sheets (paragraph [0005]). These containers, typically 60 or 100 per pack, are formed in recesses in a roll of the flexible, elongated strip/sheet, denoted base sheet (paragraph [0049]). The recesses are filled with powder and sealed with a common peel-off tape, denoted lid sheet (paragraph [0049]). In connection with inhalation, the two sheets are peeled apart a sufficient portion to expose the contents of a dose pocket, which is being brought into alignment with a slot that is in connection with a nozzle (paragraph [0050]).

The medicament pack disclosed by Davies is not provided with the special requirements of the present invention such as a dry, moisture-tight barrier seal for preventing ingress of moisture and thereby disruption of the fine particle fraction of the powder dose in the package. In order for the medicament pack of Davies to be useful in an inhalation device, the seal between the two sheets must constitute the weakest part of the medicament pack in terms of physical strength: in order to be able to peel off the lid sheet, before an inhalation

action is performed by a user, from the base sheet the seal between the two sheets must be broken easily, otherwise there is a risk that one of the sheets are broken instead of the seal and thereby accessing several powder pockets, causing the powder therein to be distributed throughout the inhalation device. This in turn means that the inhalation device most often has to be discarded or at least be taken apart and cleaned before a new inhalation can be performed. This feature defines and limits the types of seals that can be used to prevent undesired breakage of the sheets.

Therefore, the heat seal described in Davies (paragraph [0041]) basically constitutes a glue that holds the two sheets together but allows them to be relatively easily peeled away from each other in the inhalation device. It is well-known in the art that peel-off sheets are inadequate when it comes to preventing moisture from entering the blisters and accessing the doses. Thus, such a seal does not fulfill the stringent requirements of the present claims in terms of moisture-tightness that is required for preventing moisture to enter the medicament powder in the pockets formed in the base sheet.

Thus, in Davies small amounts of moisture will leak through the seal between the two sheets and interact with the powder therein. This is often not a major problem for moisture-insensitive medicaments, but for tiotropium even this small amount of moisture will dramatically affect the fine particle fraction of the powder dose. This means that the delivered fine particle dose will vary depending on the ambient conditions in which the medicament pack is stored and an exact, correct dosage will not be deliverable at each time of administration. As those of ordinary skill in this art understand, this is totally unacceptable from medical security and treatment points of view. In addition, once the user has inhaled a first dose from the medicament pack of Davies, moisture can also enter the remaining powder doses in the pack through the now broken seal between the two sheets, i.e. enter the doses from the opening in the pack formed by the sheet peeling. As those of ordinary skill in this

art are well-aware, it is very hard to have a moisture-free internal environment in an inhalation device, especially the inhalation device disclosed by Davies. Thus, moisture will, once the medicament pack has been placed in the inhalation device, leak into the pack and negatively affect the powder therein.

It is evident from the description in Davies that the medicament pack and inhalation device disclosed therein are not applicable for moisture-sensitive tiotropium medicaments. Furthermore, Davies is totally silent regarding the problems of moisture protection. Clearly, Davies was not aware of the extreme sensitivity of tiotropium medicaments to moisture, or he would not have grouped tiotropium along with moisture-insensitive medicaments such as fluticasone and budesonide in the same general category of "appropriate medicaments" for the disclosed device.

Accordingly, Davies disclosure is in clear contrast to the present invention, which teaches a medicament product comprising a container constituting a dry, moisture-tight seal, which prevents ingress of moisture to the powder dose therein. This arrangement provides that the original fine particle fraction of the tiotropium powder dose is preserved for at least seven days, a characteristic that the medicament pack of Davies cannot provide. In addition, due to the moisture-tightness of the present invention product, the delivered fine particle dose will be independent of variations in the ambient humidity conditions, a characteristic which, as has been discussed above, is not provided by the medicament pack of Davies.

Clearly, Davies does not suggest the present invention for the reasons provided above, and the rejection over this reference should be withdraw. Moreover, and for the reasons presented below, the combination of Davies and Zierenberg fail to suggest the present claims.

Zierenberg discloses an inhalation kit comprising inhalable powder of tiotropium. The active tiotropium substance, preferably in an amount of 0.001 to 5 %, is provided in admixture with a physiologically acceptable excipient (page 2, lines 17-19). Zierenberg

suggests filling the tiotropium powder into gelatine capsules, which constitute the medicament pack, and are inserted into an inhalation device (page 5, lines 16-19). These described capsules are the same SPIRIVA® capsules tested in the present application and found to be totally unsuitable for the extremely moisture-sensitive tiotropium medicament. See, e.g., specification pages 6ff and , e.g., Table 1 at specification page 9. While Zierenberg mentions usage of a multi-dose inhaler having a storage chamber containing multiple doses of the inhalable powder (page 7, line 25 – page 8, line 4), such a solution is not compatible with moisture-sensitive powders since moisture present in the inhaler and/or leaking into the inhaler will interact with the powder, destroying the fine particle fraction of the powder. [1]

For these reasons the combination of Davies and Zierenberg fail to suggest the present claims, and the rejection of the claims over this combination of references should be withdrawn.

[1] It is notable that Zierenberg mentions usage of the same peelable sheet solution as Davies (page 9, line 35 – page 10, line 10). Clearly Zierenberg has not, as Davies has not, realized that tiotropium is far too moisture-sensitive to be used in connection with capsules and peelable blisters.

Finally, with regard to the provisional double patenting rejections, the Examiner is requested to pass this case to Issue in order to first form a firm basis for comparison, after which actual double patenting rejections may be made in the co-pending applications if appropriate during their prosecution.

Respectfully submitted,

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